



Ohio Rural Electric Cooperatives, Inc.
Buckeye Power, Inc.

A Touchstone Energy® Cooperative 

Ohio Electric Co-ops & RENEWABLE ENERGY

“We will look for cost-effective sources of renewable energy to further diversify Buckeye Power’s generation mix, but we also want to ensure that our cooperative members’ growing need for electricity is met reliably and affordably.”

*—Pat O’Loughlin,
Buckeye Power, Inc.
Chief Operating Officer & Vice President,
Engineering & Power Supply*

The twin goals of providing reliable and affordable electricity guide Buckeye Power, Inc., and Ohio’s member-owned electric cooperatives in their quest for new sources of generation. Over 33 megawatts of renewable energy have been added in the past year. Combined with 55 megawatts of hydroelectric generation, renewable energy accounts for nearly five percent of Buckeye Power’s total generation portfolio.

Wind energy, biogas generation, and hydroelectric power provide the base for further investment by Ohio’s electric cooperatives in renewable energy, but the key to future projects is smart integration and cost effectiveness – reliability and affordability – as the state and nation grapple with environmental challenges and a dwindling supply of base load generation.

“This is part of our ongoing commitment to develop renewable energy or add it to our generation portfolio whenever it is cost-effective to do so,” explained Pat O’Loughlin, Buckeye Power’s chief operating officer and vice president of Engineering and Power Supply.

Buckeye Power’s renewable energy assets include:

STORY COUNTY WIND ENERGY CENTER *Story County, Iowa*

Towering over the corn fields of central Iowa, 100 new commercial wind turbines spin to harvest the energy of Mother Nature and generate green power that benefits electric cooperative members over 600 miles away in the Buckeye State. Owned and operated by a subsidiary of FPL Energy, the Story County Wind Energy Center near Colo, Iowa, boasts 150



megawatts of generation capacity, all of which has been purchased by a group of six generation-and-transmission cooperatives, including Buckeye Power, Inc. Buckeye’s purchased power agreement is for 30 megawatts of wind generation, which flows onto the national grid through the Midwest Independent Transmission System Operator (MISO), a regional transmission organization that schedules power deliveries in 14 states and parts of Canada.

Each General Electric turbine at the Story County facility can produce up to 1.5 megawatts of electricity. The 262-ft. towers are anchored in cement foundations 50 feet wide and 8 feet deep. Each of the turbine’s three blades is 125 feet in length.

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BIOGAS GENERATION PROJECTS

Northern Ohio

Two biogas generation projects came on line in the fall of 2008. Buckeye Power contracted to purchase all the output from the Bridgewater Dairy (1.2 megawatts) and Wenning Poultry (1.8 megawatts) manure-to-methane digester systems, the first of their kind in the state.



These large-scale agricultural operations constructed anaerobic manure digesters to accept the waste produced by their cows and laying hens. Bacteria break down the manure and produce methane gas, which is captured and used to run engine-and-generator sets. Interconnects provided by Midwest and North Western electric cooperatives allow the renewable energy to flow to Buckeye Power. The farm operators have solved the problem of what to do with tons of animal waste, and they have a new revenue stream from power sales. In addition, the residue from the digesters is a sterile organic fertilizer that may be sold in bulk for application on fields, pastures, and gardens.



ENVIROWATTS

Green Energy Option for Co-op Members

Using renewable energy produced in Ohio at the biogas generation farm sites, the EnviroWatts® program offers 100-kilowatt-hour blocks of electricity to cooperative members who desire to support environmental and energy goals by purchasing green power.



NEW YORK POWER AUTHORITY

Hydroelectric Generation

One of the oldest and most reliable forms of non-combustion generation is hydroelectric power. Using the motive force of a river flowing through dams, hydroelectric power is produced as water turns turbines to energize generators. Buckeye Power has a 55-megawatt entitlement to hydroelectric power from the New York Power Authority, the largest state-



owned power organization in the nation and a non-profit provider of electricity to electric cooperatives, community-owned electric systems, companies, and private utilities. This power is primarily from the Niagara (90 percent) and the St. Lawrence rivers.

WIND AND SOLAR DEMONSTRATION PROJECTS

Electric cooperative R&D projects were established to install and monitor small wind and solar (less than 25 kilowatts) systems and share the performance data on-line with students, interested cooperative members, and the general public. Projects include a wind turbine at Indian Lake



High School in Logan County and a solar panel at Butler Rural Electric Cooperative in Oxford. To review the R&D projects, go to www.buckeyepower.com.